

WATER

Matters

July/August 2005

Everglades Clean-up: It's All in the Water

Water quality steadily improves, despite challenges

*I*t's clean enough to drink, the water flowing into the Everglades. Its quality is remarkably high, verified regularly by monitoring stations throughout the region. In fact, much of the time the water is more pure than what we pay for in clear bottles packaged on grocery store shelves.

But that's not good enough for the Everglades. Water that is safe (and even healthy) for humans to drink can harm an ecosystem that's used to a different sort of water, the kind with few nutrients or minerals. Phosphorus in particular, a common ingredient in fertilizers, causes problems. Even though this nutrient is essential for all life – it is a component in bones and teeth, is required for metabolism and helps form genetic material – it also promotes plant growth. Cattails love it and respond with vigor, crowding out other wetland plants and preventing the sun's rays from reaching smaller plants in the water. Then aquatic insects, crustaceans and other tiny organisms don't have enough to eat or enough oxygen to live, which means the fish and birds don't have enough to eat either. Amazing what a little phosphorus can do!

DOING THE RIGHT THING

"Florida's goal and priority for environmental restoration is to lower the phosphorus concentration in water flowing into the Everglades, not only

because it's mandated by law, but because it is the right thing to do," said District Executive Director Carol Ann Wehle. The target concentration is breathtakingly small: 10 parts per billion (ppb). That's comparable to a pinch of salt in a truckload of potato chips! This amount of salt is not even enough to taste, but for phosphorus it's enough to make a difference in a low-nutrient environment like the Everglades.

The good news is that the State of Florida has invested more than \$1 billion in water-quality improvements aimed at lowering phosphorus levels. A decade ago, phosphorus concentrations in Everglades-bound waters averaged 170 ppb. Today, the concentrations are as low as 12 ppb, repeatedly bettering the predictions for what could be achieved.

CLEAN-UP PROGRESS IMPRESSIVE

How was this done? A big part of the story takes place on Florida's farms and ranches. Phosphorus-rich fertilizers, which once found their way into stormwater runoff, are now managed much differently than in years past. Management techniques range from improved application methods to retention ponds for irrigation reuse. Collectively known as "best management practices," these changes have vastly reduced the

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